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INSTITUTE OF
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For the Experimenter
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9D.

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3511.2 Kc.	7015 Kc.	7058.5 Kc.	8155.71 Kc.
3573 Kc.	7016 Kc.	7062 Kc.	8161.538 Kc.
3695 Kc.	7020 Kc.	7063 Kc.	8171.25 Kc.
5460 Kc.	7021.5 Kc.	7110 Kc.	8177 Kc.
5780 Kc.	7032 Kc.	7129 Kc.	8182.5 Kc.
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VK3WI: Sundays, 1130 hours EST, simultaneously on 3573 and 7146 Kc. and re-broadcast on 50 and 144 Mc. Intrastate working frequency 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0800 hours EST, simultaneously on 7146 and 14342 Kc. 7065 Kc. channel is used from 0930 to 1030 hours each Sunday for the W.I.A. country hook-up. No frequency checks available.

VK5WI: Sundays, 1000 hours SAST, on 7146 Kc. Frequency checks are given by VK5DW by arrangements only on the 7 and 14 Mc. bands.

VK6WI: Sundays, 0930 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

AMATEUR RADIO

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EDITORIAL

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REVIEW

Over the past twelve months it is gratifying to note that in the realm of Amateur Radio events have taken place not only indicating the true Amateur zest and enthusiasm for his hobby, but also his willingness and ability to organise and function emergency communications in time of need.

Firstly, an increasing activity has and is taking place in the v.h.f. spectrum where already record distance contacts have been made over terrain where previously the sceptic said radio communication at high frequencies would be impossible. Not only have these relatively short distances been spanned, but v.h.f. signals have been heard as far afield as New Zealand, showing great promise for a field of activity as yet unexplored.

During the year the Amateur Emergency Communication Networks again contributed their services to the needs of the people in areas stricken with flood and bush fires, especially in New South Wales and Victoria where these unfortunate events happen so often.

The next few years should see thrown into the emergency communications field under the possible requirements of Civil Defence, the vast advantages of short-haul v.h.f. networks, which, together with normal long-circuit networks, should provide the Commonwealth with an Amateur Emergency Service of which every citizen will be justly proud; a service that in time of National emergency can be operated by personnel who would be too old or otherwise exempt from defence service.

1952 saw the implementation of the Atlantic City Frequency Table as regards the agreed changes to the Amateur Bands on a world-wide basis. Regrettable, but unavoidable, was the loss of portion of the 7 and 14 Mc. bands; the release of the 21 Mc. band eagerly accepted although the conditions on the lower frequency bands have not been favourable to really test the quality of the new band.

Although the year has witnessed a reduction in W.I.A. membership throughout the Commonwealth after the post-war flush of enthusiastic disposals gear seeking members, the Institute is settling down with a body of keen, experienced, far-seeing, steady citizens who augur well for the future of the Society and Amateur Radio, and who see in the W.I.A. the means by which their hobby will be fought for against the slow encroachment of commercial enterprise.

On behalf of the Federal Council of the W.I.A., the Federal Executive wish you all the Compliments of the Season wherever you may be situated on land, on water, or in the air.

FEDERAL EXECUTIVE

THE CONTENTS . . .

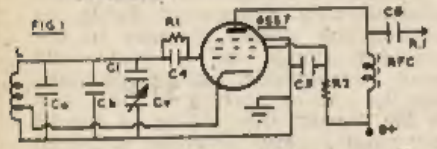
Simple V.F.O. With Temperature Compensation

BY HANS J. ALBRECHT,* VK3AHH

Many articles on V.F.O's. have been published in the past. Some contained simple types, others more complicated ones. By describing his V.F.O., the writer does not at all intend to increase the number of contributions on this subject by another one, but to provide some ideas to prospective constructors of a V.F.O. how this may be done with a minimum of material and time.

Before describing the oscillator in detail, its general properties may be of interest:—

- Absolute stability of the signal on all bands from 3.5 Mc. to 28 Mc., accomplished by mechanical rigidity and temperature compensation.
- The c.w. note is T9X on 7 Mc. and below, and T9 on 14, 21 and 28 Mc.
- Electrical bandspreading allows a convenient change of the operating frequency without the use of a complicated dial.
- The V.F.O. is compactly built and therefore of comparatively small size.
- Its construction is simple and less expensive than that of a crystal oscillator.



L—5.1 uH. (length 1.38 inches, diam. 1.96 inches, 11 turns, tap at 2 turns from grounded end).
C1—40 pF.
C2 = Ca + Cb.
Ca—100 pF. (ceramicon, —750 temp.)
Cb—250 pF. (mica).
Ct—100 pF. (variable)
C4—100 pF.
C5—0.01 uF.
C6—100 pF.
R1—50,000 ohms.
R2—100,000 ohms.
R.F.C.—2.5 mH.

I.—CIRCUIT AND CONSTRUCTION

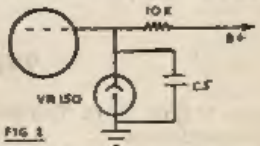
The circuit is that of an electron-coupled oscillator (E.C.O.). It is well known that there is another type of excellent stability, the Clapp oscillator, but it is doubtful if that circuit is more advantageous than a carefully built E.C.O. for ordinary Ham use. A real comparison between both types would require a lengthy theoretical discussion which would take too much space in this article. It may, however, be stated that the output obtainable with either a Hartley or a Colpitts oscillator in an electron-coupled circuit, at a stability by far satisfactory for Ham use, is larger than that of a Clapp oscillator.

The circuit diagram is shown in Fig. 1. The valve used in the circuit at the writer's station is a 6SS7. 6AC7 proved to be of the same performance. Any penthode with a separate suppressor-grid connection may obviously be utilised. A power penthode would provide more output, but was not tried due to impractical power supply connections. As this circuit was designed for optimum stability at satisfactory output, other steps clearly reducing the power output are explained.

Such are the r.f. choke replacing a tuned plate circuit and the relatively high screen series resistor of 100,000 ohms. If a tuned circuit is substituted, ample drive may be obtained for a p.a. tube with low drive requirements, as for example, the 807. On the other hand, it is not advisable to use a tuned plate circuit, certainly not one tuned to the fundamental frequency, in a compact V.F.O. like this, because it is hardly possible to shield its r.f. field from that of the oscillating circuit in a satisfactory manner.

The oscillating circuit is one of the Hartley type. It is operating on the 80 mx band. The value of the circuit capacitance is relatively high to diminish the action of any capacitive alteration in parallel to the circuit (e.g. changes in the grid-cathode capacitance). The frequency of the circuit is varied by a tuning condenser which is connected in series with an appropriate fixed condenser in order to cover only the band required. A fixed condenser is then connected across the whole arrangement forming the so-called electrical bandspreading which is described in detail in Section II. The latter condenser consists of two capacitors, the temperature coefficients of which being in the correct proportion for a satisfactory temperature compensation of the whole circuit (see Section III.). The tap on the coil must be in such a position that the feedback factor, given by the ratio of the numbers of turns on either side, is large enough to maintain stable oscillation in the desired frequency range.

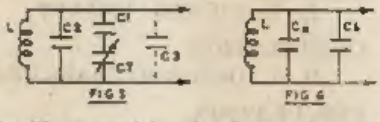
The power for the V.F.O. is taken from an external power supply (to avoid any possible source for a T8 signal) which also supplies the two subsequent buffer-doubler stages of the transmitter (employing a 6V6 and a 6L6, respectively). Due to the E.C.O's. careful design, particularly the low screen voltage, the frequency of operation is insensitive to voltage fluctuations. Voltage regulation is therefore not required. If, however, one power supply is used for the V.F.O. and a modulator stage, it was found necessary to stabilise the screen voltage, as shown in Fig. 2, in order to avoid possible frequency modulation which is more than likely under those circumstances.



The oscillator's cabinet is a steel box 5 x 5 x 5 inches. It is of course necessary to make the mechanical work as rigid as possible. This is particularly easy as a complicated dial is not necessarily required with the method of bandspreading used.

II.—ELECTRICAL BANDSPREADING

The method of spreading a certain frequency range by connecting a fixed condenser in series with the tuning condenser has always been a popular way of overcoming possible dial difficulties. Fig. 3 shows the general idea. A brief discussion with reference to this V.F.O. may, however, be of value to a number of Hams.



As illustrated by the figure the tuning condenser Ct is connected in series with a fixed one (C1) and this arrangement, together with another fixed capacitor C2 is then connected across the coil forming the resonant circuit. The tuning condenser therefore covers only a frequency range determined by C1 and C2, which equals a bandspreading of that range. To obtain the frequency coverage of the circuit we have first to consider the two capacity limits of the combination Ct and C1. They are given by—

$$\left.\frac{C1 \times Cf}{C1 + Cf}\right\} \text{(maximum value)}$$

and

$$\left.\frac{C1 \times Ci}{C1 + Ci}\right\} \text{(minimum value)}$$

where Cf = final capacitance, and Ci = initial " } of Ct.

Secondly, the capacity variation of the total circuit capacitance has to be determined. Denoting the maximum value of the total capacitance Cmax and its minimum value Cmin we obtain, using above expressions:

$$Cmax = C2 + C3 + \frac{C1 \times Cf}{C1 + Cf}$$

$$\text{and } Cmin = C2 + C3 + \frac{C1 \times Ci}{C1 + Ci}$$

Where C1 = series capacitor, C2 = parallel " } see Fig. 3
C3 = equivalent capacitance representing stray capacitances and interelectrode capacitance.

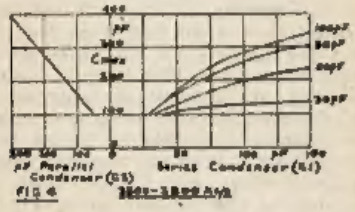
It is obvious that C3 is a quantity which cannot be caculated, and we must therefore assume a certain value for it. It is general practice to adopt a value of about 15 to 25 pF. As the self-inductance is supposed to be known, the frequency range is given.

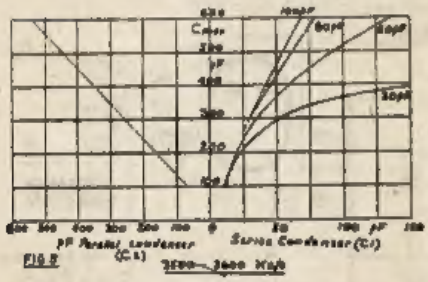
To enable readers to determine appropriate values of C1 and C2 for their particular requirements, the writer made the attempt of calculating suitable charts for two common V.F.O. frequency ranges, namely 3,500 to 3,800 Kc. and 3,500 to 3,600 Kc. The first one is of course for operation on 80 mx band and all others which are harmonically related to it, while the latter

* 10 Belgravia Ave., Box Hill North, E.12, Victoria.

range is mainly intended for operation on bands higher than 3.5 Mc. only. The charts are shown in Figs. 4 and 5, respectively. Their use is extremely simple.

Consult any inductance chart (to be found in handbooks or technical diaries) for determination of the inductance of the coil to be used in the circuit, or, alternatively, calculate its inductance using the known formulae. The next step is to find the capacitance necessary for resonance on a frequency of 3,500 Kc. This value may be read off a frequency chart (in handbooks, etc.). Now use Figs. 4 or 5, whichever frequency coverage of the V.F.O. is desired. Here we have on the vertical axis (Cmax) the capacitance found above for 3,500 Kc. Four curves, each for a common type of variable condenser, allow the appropriate series condenser C1 to be determined for the variable condenser available. The left part of the figure shows a nearly straight line by which we can easily find the necessary parallel capacitor C2.





In calculating the charts it was assumed that the initial capacitances of the variable condensers treated, equal ten per cent. of their total capacitances, and secondly, that C3, i.e. the sum of stray capacitance and interelectrode capacitance, and so on, is 25 pF. As those data may be slightly different in each case, it is obvious that this is a limit for the accuracy. Thus if the range is desired to be very exact, it is advisable to use ceramicon trimmers to form the last 10 to 20 pF. of both the series and the parallel capacitor, by which the frequency limits may be adjusted as accurately as desired.

The length of the winding on the coil former is 1.38 inches and its diameter is 1.96 inches, while the number of turns is 11. This results in an inductance of 5.1 uH. The capacitance needed for resonance on 3,500 Kc. is found to be approximately 400 pF. Now supposing the frequency range is to be 3,500 to 3,600 Kc., we find the necessary parallel capacitance is about 350 pF., and the series capacitor for a variable condenser of 100 pF. is 42 pF., i.e. 40 pF. As mentioned above, the value of both fixed condensers may have to be adjusted experimentally for exact frequency limits.

III.—TEMPERATURE COMPENSATION

As is generally known, any oscillator circuit alters its frequency if it is subject to temperature changes and not compensated. This is due to changes in the electrical behaviour of circuit components as the temperature alters. This is denoted by the so-called temperature coefficient of the component concerned. We speak of a positive temperature coefficient if the value of the component increases with rising temperature and of a negative one if the value decreases with increasing temperature.

In order to make an oscillator circuit stable and insensitive to any temperature change, there is first of all a very logical solution to the problem and that is to place the actual circuit components as far as possible from any "heating" element, i.e. valves, transformers, and so on. This, however, is impossible in a small, compact V.F.O. But any frequency change caused by an alteration in temperature in the circuit elements other than the valve itself can be satisfactorily compensated. Let us now consider what has to be done to achieve such compensation.

Even if the condensers were unaffected by temperature we still have a small, postive temperature coefficient of the circuit, which is due to changes in the inductance of the coil, stray capacitance, and so on. This may nearly be made ineffective by using a suitable combination of capacitors such that the temperature coefficient of the whole circuit equals zero. In condensers the change in capacitance is due to an alteration in the properties of their dielectrics, i.e. the dielectric constant K varies. Thus the unit of the coefficient may be defined as the change in K relative to the actual K times 0.000001 per degree Centigrade. Manufacturers of ceramicon condensers usually publish this data for their types. A common type of ceramicon condenser is, for example, one with a negative temperature coefficient of 650 to 850 units.

The simplest way of compensation in a resonant circuit is to divide the fixed parallel capacitor into two condensers, both of which having opposite temperature coefficients. The ratio of the two condensers must then be chosen in such a way that the total coefficient of the condenser combination compensates the small positive one of the rest of the circuit which can usually be assumed to lie between +50 and +200 units. Adopting a value of +150 units we obtain the following expression which permits the determination of appropriate capacitors in a simple way:

$$\frac{Ca}{Cb} = \frac{-150 - Tb}{Ta + 150}$$

where Ca = value of condenser Ca
Cb = value of condenser Cb (see Fig. 6)
Ta = temp. coefficient of Ca
Tb = temp. coefficient of Cb.

To illustrate the procedure of calculation, let us now return to the V.F.O.

Suppose we have a ceramicon condenser of 100 pF. and an average negative temperature coefficient of 750 units.

Ca = 100 pF., say,
and Ta = — 750.

The total parallel capacitance which is in this case given by other factors (see section II.) is 350 pF. Thus

Cb = 350 — 100 = 250 pF.

and the ratio

$$\frac{Ca}{Cb} = \frac{100}{250} = 0.4$$

Thus, by above expression, Tb = +90 units. Therefore the second condenser of the parallel combination must have 250 pF. at a positive temperature coefficient of about 90 units. As natural mica has a coefficient of +80 units, a mica capacitor of 250 pF. is used in the V.F.O.

In practice, this V.F.O. has now been used for almost two years with good results, so that its construction may be recommended to all interested. The same circuit can be utilised for the oscillating circuit of a frequency meter as it is stable within 200 cycles on the fundamental frequency under ordinary operating conditions.

A Phasing Type Single Sideband Suppressed Carrier Exciter

PART ONE

BY N. SOUTHWELL,* VK2ZF

The theory of s.s.b. transmission in general has been well covered in articles appearing in this and other radio journals; it is not the intention in this article to cover that ground in any detail, but to describe an s.s.s.c. phasing type exciter that has been functioning satisfactorily for some time on the 14 Mc. band, and only to bring in as much theory as is required when discussing points of technical design.

Component parts for the exciter are readily obtainable and apart from six resistors and six condensers in the audio phase shift network, no close tolerance parts are used, in fact, the components available influenced, to a certain extent, the circuit used, as for example, the use of two transformers instead of one, in coupling the 6F8 output to the audio phase shift network, because one transformer of suitable power rating and impedance ratio was not obtainable.

The equipment needed to align the exciter consists of an a.c./d.c. multimeter, a receiver, and an audio oscillator to provide a source of low distortion tone of around 1,000 cycles per sec. If a b.f.o. is available, so much the better. An oscilloscope is not required, though one can be quite handy for checking adjustments; it is by no means essential.

* 90 Dutton Street, Yagoona, N.S.W.

THE AUDIO CIRCUIT

Fig. 1 is a block schematic of the exciter, whilst Fig. 2 is the complete schematic.

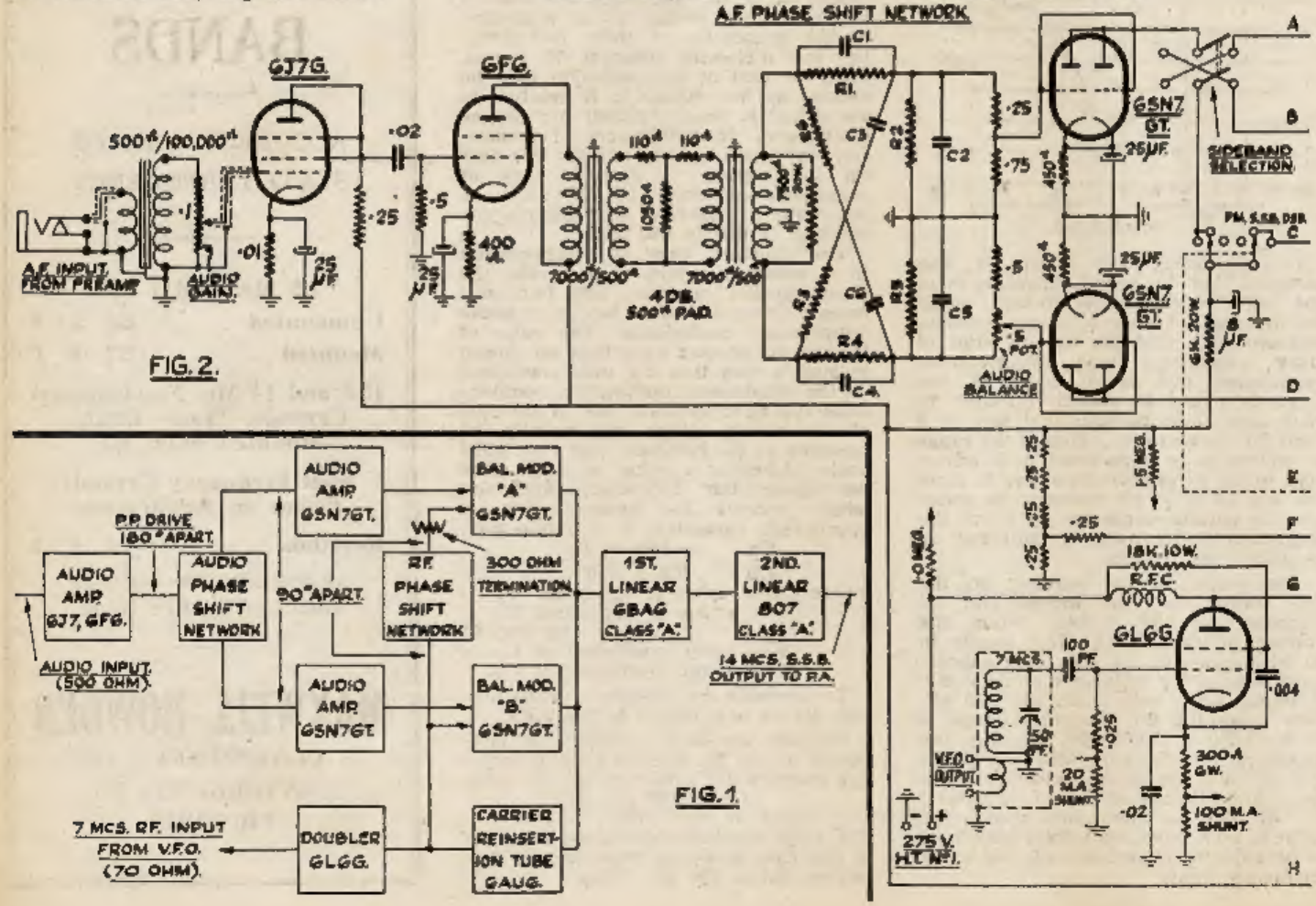
Network Components	Nearest Commercial Value to that requir.	Exact Value required	Value Measured on Bridge
	uF.	uF.	
C1	0.001	0.00105	Cm1
C2	0.002	0.00210	Cm2
C3	0.006	0.0063	Cm3
C4	0.005	0.00475	Cm4
C5	0.01	0.0095	Cm5
C6	0.03	0.0285	Cm6
	Ohms		
R1	100,000	100 / Cm1	
R2	50,000	105 / Cm2	
R3	15,000	100 / Cm3	
R4	100,000	453 / Cm4	
R5	50,000	476 / Cm5	
R6	15,000	453 / Cm6	

Table 1.— Audio Phase Shift Network Circiut Component Data.

The audio input channel of the exciter has an impedance of 500 ohms, and is normally connected to the output of the station's microphone preamplifier which, in the writer's case, incorporates a l.p. filter having a cut off frequency of less than 4 Kc. The low frequency response of the preamplifier drops away below 300 cycles per sec. due to the choice of the interstage coupling components. A narrow frequency response in the preamplifier is desirable as the audio phase shift network only works well over the "voice frequency" range.

The gain control in the 6J7 grid circuit governs the amount of audio fed to the exciter and when radiating on s.s.s.c., the setting of this control determines the peak power output of the unit.

The 6J7-6F6 amplifier section is of standard design, the 6F8 output is transformer coupled to the input of a "Dome" type wide-band audio phase shift network by means of two transformers separated by a 4 db. 500 ohm pad. The reason for using two transformers has already been given, the 4 db. pad serves to provide an amount of isolation between the two transformers, as cascading them directly is liable to cause interaction between them as regards impedance matching, etc. The 7,500 ohm secondary of the second transformer is loaded by a 20w. 7,500 ohm resistor to correctly load the 6F6.



The wide-band audio phase shift network was originally brought out by R. B. Dome, and articles on it have appeared in various journals. This type of network must be fed from a low impedance push-pull source, the exact impedance is not critical, as long as it is not very high; the secondary winding of a small class B modulator driver transformer is excellent. A lower value than 7,500 ohms could be used as long as sufficient audio voltage can be developed to drive the grids of the 6SN7GT's. The use of the 6F6 as driver provides a reserve of power as the loss in the network is fairly high, around 13 db., which is a voltage ratio of approx. 4.5 : 1. This ratio becomes 9 : 1 when the voltage divider networks on the o.p. of the phase shift network are included. It is better to have a reserve of drive than to have too little, also the driver tube can be run well within its ratings. Other experiments in view, requiring considerable audio power at this point are in mind, so the 6F6 was chosen for the driver stage.

Phase Shift Network

The values of the six resistors and six condensers comprising the audio phase shift network are critical and should be as close as possible to the actual values required. The values of the components used in this network are similar to those used in the W2UNJ exciter in "QST" for August, 1949, mainly because the exact values required in it approach values which are easily obtainable commercially, as can be seen from Table 1. If you desire to strike out on your own and select a new set of values, the article by VK4FN on s.s.s.c. in "Amateur Radio" for Sept., 1949, will provide you with the necessary information to do so.

When selecting components for the network, do not take the values stamped or colour coded on them for granted, values vary widely from these in practice. Obtain as many condensers and resistors as possible of the approximate values required, then go through the condensers one at a time, measuring their capacitance on a bridge, pick out six whose values are nearest to those required, or build up to the correct values by using more than one condenser for each position in the network. Then apply the condenser values obtained to the formula given in Table 1.

To obtain the exact values of the six resistors required, obtain or build up resistors of those values by again using the bridge. In the writer's case the values were obtained by using a small general purpose bridge, not a laboratory precision instrument, and the network has never given a minute's trouble.

Across the two outputs of the audio p.s.n. are connected two 0.5 meg. resistors and a 0.5 meg. resistor with a 0.5 meg. pot, respectively. These are voltage dividers, one fixed, one variable to enable the two outputs from the network to be adjusted for amplitude balance, by adjustment of the 0.5 meg. pot, thus providing equal audio drive to each

CIRCUIT NOTATIONS

Figure 4 is simple Vector Diagram showing operation of Balanced Modulators "A" and "B" at any peak instant.

(a) Balanced Modulator "B."

(b) Balanced Modulator "A" (Note R.F. Carrier lags 90° on Bal. Mod. "B" and A.F. input is shifted 90° also).

(c) Result of adding outputs of Bal. Mod. "A" and "B" as shown on the left (upper S.B. radiated). Carrier energy is balanced out by Bal. Mods.

Coil Data

6L6G: grid 27t. close wound ¾" diam. Link 4t. wound over cold end. Plate 22t. close wound ¾" diam.

6SN7GT's Plate: 2 x 10t. each ¾" diam. winding length 11/16", coils mounted in line, distance between ends of coils when mounted 3/16", link is 2t. 18 d.s.c. wound in the 3/16" space.

6BA6 grid and plate: each 17t. close wound ¾" diam.; links each 2t. wound over cold end.

All coils above, except 6SN7GT link, wound with 28 s.w.g. d.s.c.

807: grid similar 6BA6; plate 12t. 20 s.w.g. enam. 1" winding length, 1¼" diam. and c.t.; link 2t. Belden wound over centre of plate coil.

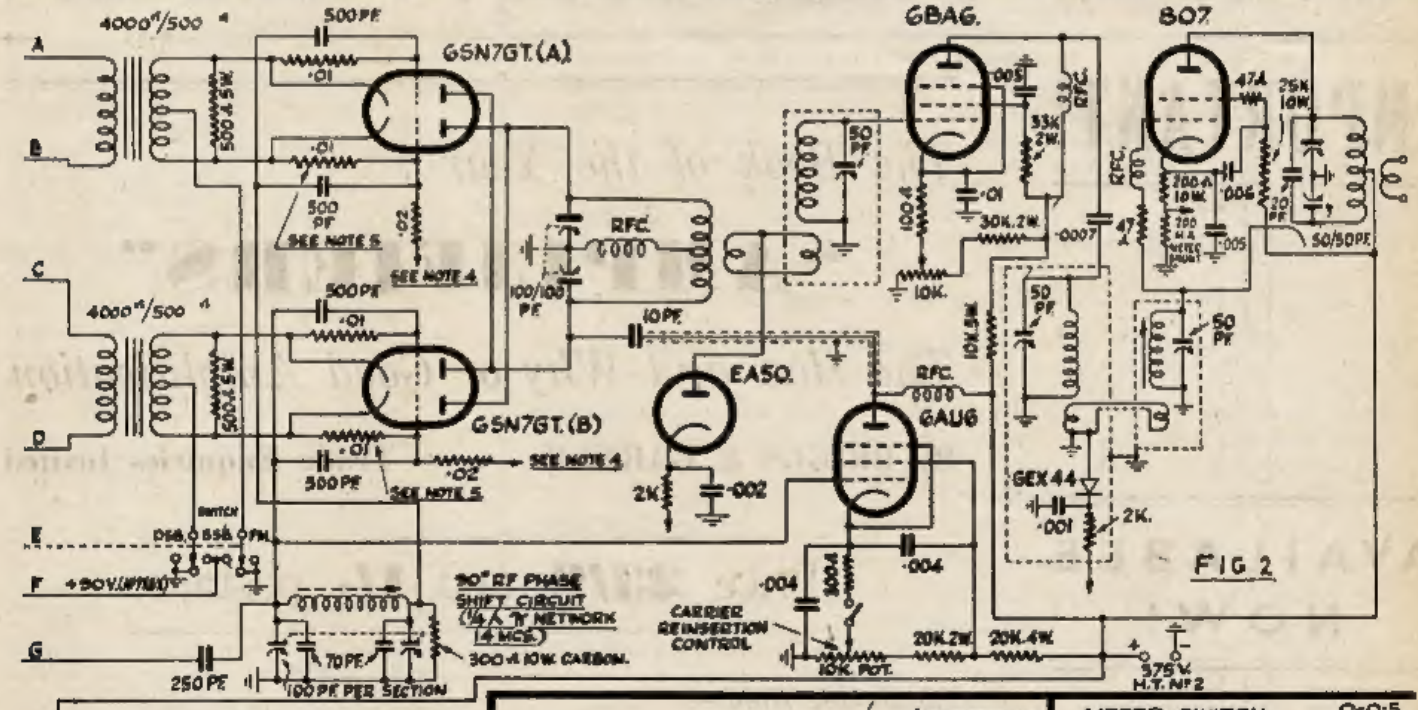


FIG 2

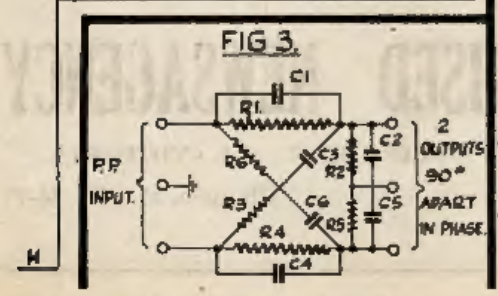


FIG 3.

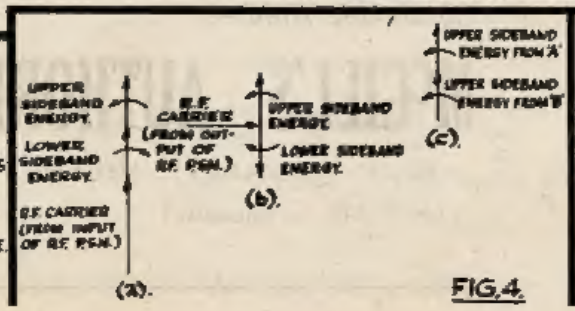
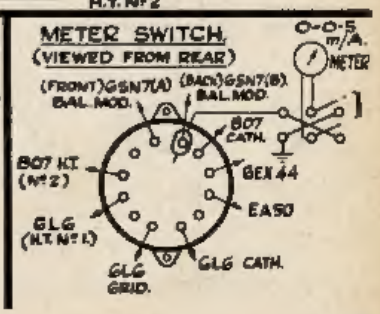


FIG.4.



balanced modulator through their respective audio driver stages.

The plate circuit of the 6SN7GT audio driver for balanced modulator "A" has in it a d.p.d.t. switch which, when operated, reverses the connections to the primary of the coupling transformer, changing the phase of the audio energy fed to balanced modulator "A" by 180°. This action results in either the upper or lower sideband energy being cancelled out in the balanced modulators' tank circuit, depending upon which way the switch is set, hence the designation "sideband selection switch," as its position determines which sideband is radiated.

Balanced Modulators

The audio drivers are coupled to the balanced modulators by two transformers. These must be identical (of the same make and type), this is important, as the use of similar transformers will result in a similar audio response and phase shift in each channel. Do not try and use dis-similar units, it just will not be satisfactory.

The transformers used in the original unit came from the disposals market, and had a secondary impedance of 500 ohms, a higher impedance would be quite satisfactory though, but the writer prefers to drive his balanced modulators from low impedance circuits.

The transformer secondaries are loaded with 500 ohm 5 watt resistors for terminations, because the load presented to the transformers by the balanced modulators is considerably higher than that value.

THE R.F. CIRCUITS

Turning now to the r.f. circuits of the exciter, which is driven from a 7 Mc. output v.f.o., we first come to the doubler stage from 7 to 14 Mc. using a 6L6G. The use of a tube of this size in such a low level circuit may seem unusual, but when the exciter was under construction, it was not known whether the v.f.o. would prove stable enough to generate a carrier for feeding an s.s.s.c. exciter, and it would have been quite an easy matter to re-wire the doubler stage as a tritet and use crystal control, had such proved the case, and the 6L6G was the most suitable tube on hand.

In passing it may be pointed out now that if it is intended to use a v.f.o. to drive an s.s.s.c. exciter, the v.f.o. must be of excellent stability, better than that normally required for a.m. phone or c.w. work. The oscillator must also be completely free of phase modulation from the 50 cycle supply. (Note.—Clapp oscillators followed by some frequency multiplication and having their heater circuits above ground are prone to this trouble.) Above all, the oscillator must be stable. Many a v.f.o. wil be found to fall down when put to the task of driving an s.s.s.c. exciter. Nothing is more annoying when receiving s.s.b. transmissions than having to sit with one hand glued to the receiver b.f.o. pitch control to keep a drifting transmission synchronised, however, enough of v.f.o's., let us return to the 6L6G stage.

The coupling from the v.f.o. is via a 70 ohm coax link, a combination of grid leak and cathode bias is used to keep the plate current within safe limits irrespective of the amount of drive from the v.f.o. Metering of the grid and cathode currents is provided. The grid tank is a semi-fixed-tune circuit and once set to 7,100 Kc. needs no further adjustment.

In the plate circuit of the 6L6G is the 90° r.f. phase shift network. The 90° phase shift is accomplished by the use of a pi network terminated in its characteristic impedance of 300 ohms. This set up is equivalent to a quarter wave terminated line. A few moments thought regarding a terminated quarter wave line will bring to mind that the electrical length of the line is 90°, which means a phase shift of 90° occurs between its ends, also that the voltages across its ends are equal in amplitude, the very requirement needed to supply r.f. drive to our two balanced modulators.

The 300 ohm network termination, which must be non-inductive, is made up of carbon resistors, paralleled up to give a power rating of 10 watts. Use only carbon resistors for this termination. Ten watts may seem an unwarranted power rating for this resistor as only a watt or so of r.f. is in the circuit, but it must be remembered that the termination must run practically cold, any undue heating will alter its value and thus throw the whole network off its correct operating position. Mount the resistors where they can get some circulation of air around them.

The tuning condenser for the pi network is a "butterfly" type disposals job of approx. 100 pF. per section, used as a two-gang condenser.

The efficiency of the 6L6G working into such a low load as the network presents, is somewhat low, but this was considered a small price to pay for the

ease and convenience that this method of r.f. phase shifting gives, and after all the amount of power dissipated in the 6L6G is not great.

R.F. Phase Shifting Networks

Quite a number of r.f. phase shifting networks were tried with varying degrees of success, until the present circuit was arrived at. Generally speaking, the other systems were found awkward to adjust, especially those circuits using two branches in which the reactance of an inductance and a capacity is made to equal the resistance in their respective branches, thus retarding and advancing the phase by 45° in each circuit, giving an overall shift of 90° between the two outputs. There are too many variables in circuits of this type for them to be easily adjusted.

It was reasoned that it would be simpler instead of having to derive two r.f. drives, each 45° removed in phase from the r.f. source, to use the r.f. source to drive one balanced modulator, and shift the phase 90° to drive the second balanced modulator.

Ideas investigated, included coupled circuits; these gave quite good amplitude balance, but had a fixed phase difference which, though a lot of time was spent on the problem, could never be made exactly 90°, apparently due to slight stray capacitive effects, even though these were kept as low as possible and efforts also were made to neutralise them. The result was that the sideband rejection was not high, being only around 20 db. The pi network was then tried and over a period of months has been found stable and easily adjusted.

DONATION

Mr. J. Coulter, VK5JD, has kindly denoted a prize of One Guinea for the best technical article to be received for the magazine between 1st of January and 30th June, 1953. This prize is open to all Members and Associate Members throughout Australia. So how about it chaps!

The balanced modulators used are 6SN7GTs, with the r.f. energy fed to the grids in parallel and the a.f. power applied to the cathodes in p.p. The sources of drive are all of low impedance, and the output tank, across which both balanced modulator outputs are connected in parallel, has a reasonably high impedance, resulting in as efficient operation of this section of the exciter as is possible.

It may surprise you to see that no d.c. plate voltage is applied to the balanced modulator, the only voltage on the plates of these tubes is the audio voltage which appears across the 500 ohm secondary of the audio transformer to which each tube is coupled. Half the voltage across the transformer secondary, from c.t. to each end of the winding, is applied between cathode and plate, of each section of each tube, with the plate side of the driving voltage being earthed.

A d.c. voltage applied to the balanced modulators, would only raise the plate dissipation of the tubes and would not produce any additional output to that obtained at present.

Operation of a Balanced Modulator

From experience on the air, it is evident that the majority of Amateurs are somewhat confounded by a balanced modulator and have no idea of its operation. The simplest way of explaining the operation of a balanced modulator is to consider it as being an electronic switch operated by the r.f. drive, and reversing every half cycle of r.f., thus switching the audio energy supplied to the balanced modulator at that rate. The amount of r.f. carrier in the output circuit of a perfectly balanced stage would be nil, because the r.f. is applied in the same phase to both grids simultaneously and thus cancels out. However, nothing in this world is perfect, so we are told, and that applies to balanced modulators also. A small amount of r.f. carrier appears in the output circuit due to slight unbalance in the stage, the amount of carrier depends upon how great the unbalance is, but more of that later when we consider lining the exciter up initially.

(To be continued)

— . . . —

VICTORIAN WEATHER

Overheard on 40 metres during the South Western Zone's Convention and Field Day at Creswick. During a particularly heavy downpour, a VK3 was heard calling CQ in the following manner: "VK3——— 'Mobile Marine' at Creswick." Locality, Creswick, is approximately 150 miles from the sea.

STRAIGHT *from factory to field!*

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- **A.W.V. "Pin-Protectors" will be a standard part of the packing for Radiotron miniatures.**
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DX NOTES BY VK7RK*

October has always been, to my mind, the DX month of the year and so, on this occasion, has provided much more interest than the preceding months. Of course, ionopsheric conditions being what they are, it's a very sorry comparison with a few years ago, but any improvement is welcome and the hopes for those new ones live again. Naturally enough, with very limited time, I cannot hope to hear even a small part of the available DX so let me enter a plea once more for some doings of the gang. Even the stations you consider commonplace working are probably of interest to the other chap.

3.5 Mc.: Once more the only report is from **Eric B.E.R.S.195**, who lists SM5AQV (daily 1900-2030z), SM4ALB, SM4GL, SM7JM, DL3BQ, LA3LC, W7BL, W8BHW. The one morning I listened brought HB9BX and UB5KCA.

7 Mc.: All reports indicate that Europeans are easily worked in the early mornings and around breakfast time such calls as G, F, DL, SM, etc., come thick and fast. From **Eric** once more comes YJ1AB, W6CYX/KP4, MP4BAU, TA2EFA, 4X4BX, 4X4DH, CO8AQ, KB6AY, KC6QY, ZB1KQ, FK8AJ YI2FD, YI2AM, YI3BZL, VQ2AT, VQ3BU, VQ4AQ, ZC4RX. **3AHH** adds to the general run of Europeans, KJ6FAA* and VP5BH, just 2 Kc. inside the band at 0530z. **2AMB:** YJ1AB*, VS6CG*, SM5ANY*, CE3AG*, PA0VB*, and PA0UN*. **5XK:** YJ1AB*, KG8FAA*, VK1EM*, CM8SL*, FK8AJ*, KB6AY*. **7RK** managed the usual few Europeans early plus YJ1AB*, LA3TD, HB9CM, YU1AHI, UB5BP (they still won't play), CT1EL and 4X4DR.

*5 Galvin Street, Launceston, Tasmania.

14 Mc.: Evenings provide quite good contacts with stations in JA, KA, VS6, KG6, KR6, etc. Afternoons seem very erratic, on some occasions have heard all continents under one hour, but on other occasions almost nil. Around 2200z North Africans are available together with Ws long path. **B.E.R.S.195** comes up with CE3AG, FI8AC, YJ1AB, PY2CK, while **3AHH** lists YJ1AB*, CE3AG* KZ5DE*, PY2CK*, OH1PW*, OH5NK*, ZS5AM* (at 0500z on a dead band), ZK2AA*, MI3LK, OZ8U, MF2AA, OE13HP, HC1FG, HZ1SD. **4XJ** lists VR3C*, FI8AC*, FI8AD*, GI4RY*, GC2FZC*, GM2ACQ*, FB8ZZ*, KP4AZ*, VR4AE*, CR9AF*, MB9BJ*, MP4KAC, and a long list of the more general ones, in all Les worked 44 countries for the month. **4CW:** 4X4BT, SM7QK, OH5CE, PA0BI, PY9BR, LU3PK, SM5ACC*. **5XK** swopped reports with SP8SA*, SM5CO*, GI4RY. **7RK** at long last added ZK2AA* to the list and logged HS1VN*, SL5CB*, PJ2AD, ZE1JE, CE3AG, KX6AI, HC1FG, KZ5GO, LA3DB, JA2CB*, CN8GD.

Those stations reported specifically as phone are, from **B.E.R.S.195:** KJ6AW, ZK2AA, ZM6AA. **3AHH:** I1BDV*, CT1FM*. **7RK:** DU1JI, VS7FJ, VR2AP, VR3C, C3AR, 4X4RE, TA3AA, ZK2AA, PY2CK, LU7DX, VK1RG.

21 Mc.: As I said last month, this band is showing signs of really coming good. Europeans are peaking about 1000-1100z and a good indication of the state of the band is obtained by listening for the commercial GLI3 on approx. 21410 Kc. **2XQ** works Ws. one as early as 2100z; heard him among the Europeans during "CQ" Contest. **4HR** heard Europe QSO ZD9AA, ZD7A and FF8 at 1000z. **4XJ** lists W6*, W0*, ON4NC* **Eric B.E.R.S. 195** heard VE7AIH, KA2OL, W0BLZ. **ZL4GA** says Africans known to be on 21 Mc., apart from those listed elsewhere are CN8MI, FA8CR, FA8BG, FF8AG, CR7AF. **7RK** had a good month working 15 countries including VQ4HJP*, DL2RO*, 4X4RE*, 4X4BX*, GW3FSP*, OZ2PA*, OE5CA*, G6CJ*, ZC4RX* and hearing, apart from numerous G and DL, F8BS, F8BI, EA3CY, ON4AS, HB9EU, TA3AA, PA0KW, VR2CG (phone and c.w.), VE7AIH.

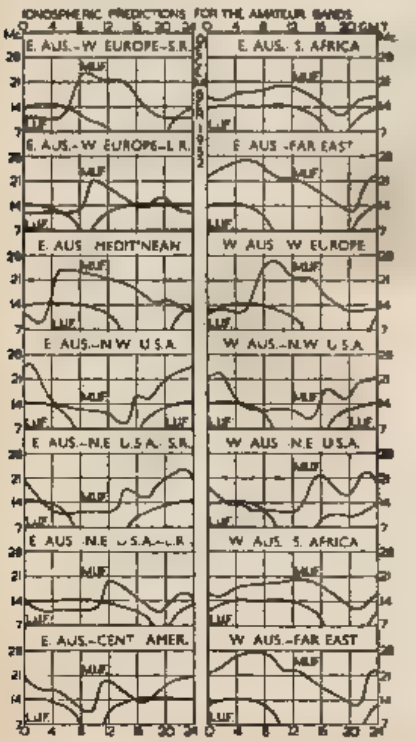
28 Mc.: As also with last month, the only one who seems to be active seems to be **4XJ** who entered W6VAD*, W6TWF*, W6PKF*, W5VIU*, W7PBD, KA2OM*, KH6AGY*, KH6FC*, KM6AX and ZK2AA. Here 28 Mc. is dead.

QSLs received during the month **2AMB**, KG4AF, MF2AA, SU1GB, FO8AB, VP5BH (Cayman Is.), the last two for 7 Mc. contacts. **3AHH**: FU8AC.

Some QTHs that may be of interest are: MP4BAU—Adi Lawyer, Qatar, Bahrein Is. HS1UN—C/o E.C.A.F.E., Bang kok, Thailand. SA2CB—Benghasi, Libya via R.S.G.B. SA3TA -Box 372, Tripoli, North Africa.

4QL, now settled into VK2, provides the dope that G3AAT has gone to Greenland for a period of approx. 2 years with the British North Greenland Expedition. He will be operating when circumstances allow under G3AAT/OX and QSLs will be despatched when the Expedition returns. DU stations now appear to be permitted to work outside American possessions.

PREDICTION CHART FOR DEC., 1952



DX C.C. LISTING

PHONE

Call	No.	Ctr.	Call	No.	Ctr.
VK4HR	12	167	VK4JP	5	114
VK3BZ	3	163	VK3AWW	14	113
VK3EE	10	163	VK4DO	20	109
VK3JD	1	158	VK5M5	24	109
VK6RU	2	152	VK4RW	23	104
VK4KS	9	152	VK3ADT	13	103
VK6KW	4	150	VK3AHA	15	102
VK3LN	11	141	VK3HO	25	102
VK4FJ	21	141	VK6PJ	19	101
VK3JE	7	133	VK4RT	22	101
VK4WF	16	130	VK3IG	5	100
VK3DD	6	126	VK3GG	18	100
VK4WJ	17	122			

C.W.

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	6	207	VK3XK	30	128
VK4HR	8	188	VK4RF	11	125
VK3FH	18	177	VK3YD	27	123
VK4EL	9	167	VK3EK	3	122
VK4FJ	29	165	VK3JI	25	118
VK2EO	3	158	VK3PL	35	117
VK3CN	1	151	VK3HT	37	117
VK2GW	16	151	VK3UM	13	116
VK5RX	23	150	VK3YL	39	115
VK3CX	26	150	VK7LJ	34	114
VK6SA	18	150	VK4DA	7	113
VK4QL	[redacted]	146	VK7LZ	17	113
VK3VW	4	143	VK4RC	13	107
VK2QL	8	142	VK6KW	40	104
VK6RU	18	141	VK2YC	34	103
VK3KB	10	138	VK3APA	14	101
VK5FH	31	134	VK3NC	18	101
VK5BO	33	133	VK3OA	32	101
VK4DO	20	129	VK7RK	22	100
VK3JE	11	129	VK2AEZ	35	100

OPEN

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	4	220	VK2ASW	53	118
VK4HR	7	208	VK3AWW	45	115
VK3NS	16	195	VK3JA	43	114
VK3JE	12	190	VK2ADT	14	113
VK6RU	9	186	VK4RW	62	113
VK4FJ	33	184	VK3PG	47	111
VK3HG	3	171	VK3MM	48	111
VK6KW	13	171	VK4RC	21	110
VK2DI	2	170	VK3ZB	34	110
VK3KX	1	167	VK3HO	38	110
VK4EL	10	167	VK2ZC	25	108
VK4KS	24	167	VK2YL	11	106
VK4DO	15	167	VK3AWN	35	105
VK3LN	28	144	VK2VN	18	104
VK5FL	28	143	VK4UL	27	104
VK2MC	5	139	VK6PJ	44	104
VK3OP	19	137	VK6PW	50	104
VK4WF	40	137	VK2HZ	17	103
VK6DD	22	136	VK7KB	30	103
VK3HT	41	135	VK2TI	37	103
VK2ADE	28	133	VK6DX	43	103
VK9GW	48	133	VK7RK	31	102
VK2AHA	9	128	VK4TY	35	102
VK2AHM	20	125	VK5HI	51	101
VK3JI	33	119	VK2ACX	6	100
VK7LZ	23	118	VK2TG	39	100
VK3VQ	48	116			

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

NEW SOUTH WALES

A meeting was held at Science House on 7th October with a good roll-up Those in attendance were 2JU, 2ANF, 2AOA, 2AJZ, 2OA, 2WJ, 2HL, 2VW, 2ABZ, 2AST, 2HE, 2AYM, 2HO, also a number of visitors. The night was enjoyed by all. 2ANF, 2NP, 2HL, 2AOA and 2AST gave a talk on their experiences at their various locations which was applauded.

The greatest highlight of the month was the v.h.f. combined field day, which was held on the Saturday and Sunday, 4th and 5th October There was a number of stations out in the field, and most of the home stations were active. Conditions for the two days were not the best, it rained heavily all the time in most locations, but despite the weather, it was a success.

Stations in the field were 2ANF who had a very nice c.c. tx, 832 in final and a xtal converter (cascode) with a 7 Mc. i.f. channel, modulator two 6C4s class B, he used a halo antenna while mobile, 3 x 3 element beam was used. Station was set up on top of Mt. Canobolas, 4610 ft. high. The greatest distance worked was 175 miles to 2PN, the Granites (6 miles south of Batlow). The mobile tx was in action on the way up to Bathurst, and QSOed many stations.

2HL and party were on top of Mt. Lambie with a nice xtal converter and an 829 in the final of the tx. The beam was a 3 element type. 2AST and party were at Mt. Tomar, they used a xtal converter, c.c. tx, and antenna was 3 half wave stacked dipole voltage fed 15 ft. high. They had 40 mx. gear but that band was dead and no contacts were made. Thirteen contacts in all were made on 144.

Ross 2PN was on top of the Granites 2,147 ft. high and he made a number of contacts, VK3UI on Mt. Morgan being the highlight. This contact was made during very bad conditions and signals were S4/5, the distance was 179 miles, which I think will top the pole for the field day. Ross uses a 522 tx. and 4 x 4 antenna. 2ALG was mobile on both days and he was at various mountain spots likely to be good get-aways for signals His signal was heard all over Sydney at S9. No news was received from the Royal Naval College on the Canberra Radio Club, but they were out in the field.

John 2AMV was mobile from Forbes to Orange. 2NS was active from his home location and made many contacts. 2ATO made a brave effort and went to Sassafrass on Turpentine Ridge near Nowra and only heard 2HL, but the wx. there was also very bad and John gave it away His rig was a cascode converter and tx. had 6J6, 6J6 and QVO4/7. 2AOA located at Canberra had no contacts, but was heard by 2ANF and 2WH at S7. 2WH was very active at home location and worked many stations. Hugho has an xtal converter and an 829B in the final of tx. Antenna was a 4 x 4.

2ACT of Dubbo was worked by 2ANF. 2EI, Parkes, used a mod. osc. 2TA, Young, has a rotary beam.

Many Sydney stations were actve over the two days. 2GU Canberra and 2TA have been heard a lot in Sydney. Arch has an 829B in final and also a crystal converter. Keep your beams on Canberra at 8 p.m.

The general meeting of the W.I.A. was held at Science House in the large hall on 24th October. The V.h.f. Group gave a lecture and demonstration of v.h.f. and u.h.f. gear. The lecturer, 2ABB, gave a very good resume of what v.h.f. boys do, what they build and why. The job was excellently done and we thank him very much. He was assisted by 2AJX who described xtal cascode converter and 2HL who described the building of his 144 Mc. tx., using the flat strip plate lines. Both did a good job. Thanks again boys. There was all types of gear from 2 tube xtal tx's (pip squeak) to high powered p.p. 826 final rigs.

We welcome new stations on 144 Mc.: 2ADE, 2AYM and 2MZ. Old stations back are 2ASK, 2FO, 2ACC and 2AHP.

A few break-throughs have been noted on 50 Mc., 2AHR, 2ADT coming in R8 in Sydney. The beacons were heard here on Sunday, 26th, from TL, NL. So keep an eye on 50 Mc. 2VL says he is going to get on 576 Mc soon as he has a rx. ready; 2DF, 2WJ and 2XX are occasionally on that band

VICTORIAN V.H.F. GROUP

The October meeting of the Group was devoted to a description of 144 Mc. portable gear by Cedric 3ACH, and a discussion on the coming field day contest. Cedric's tx is a three stage job using an EF50 tritet c.o. with output on 24 Mc. driving a second EF50 which is a dblr., this in turn driving a final 832 as a trebler to 144 Mc., with an input of 20 watts. The rx is a modified 522 with 6AK5s in the r.f. section and the audio end is used for modulation purposes when transmitting. H.t. power is obtained from I.F.F. genemotors. The antenna is a Lenfo beam, and the longest distance worked is to VK7.

The field day contest rules were finalised and are as follows:

(1) Period of contest. Between 1200 and 1700 hours E.S.T., on Nov. 2, Dec. 14 this year, and Feb. 1, Mar. 15, April 26, 1953.

(2) Contacts. Every contact made counts toward the final score with the restriction that only one contact with any one station per band per day will count.

(3) Scoring. The system of scoring is on a mileage basis thus: Up to 10 miles, 1 point, with the addition of a point for each additional 10 miles up to a total of 100 miles; from 100 to 120 miles, 11 points, plus a further point for each 20 miles above up to a total of 200 miles; 200 miles and above 16 points. On 50 Mc. any contact over 300 miles earns no more than a total of 5 points.

(4) Multipliers: 50 Mc.—2, 144 Mc.—3, 288 Mc.—8, 580 Mc. and above—9. Each multiplier applies only to the score obtained on that particular band; i.e., if a station scores 118 points on 50 Mc. and 10 points on 144 Mc., the total score then becomes: 188 × 2 = 236; 10 × 3 = 30; total 266 points.

(5) Sections. There is a receiving section for associate members and a section for transmitting members. Both home and portable stations may compete in the transmitting section. This enables one to operate from home or portable as determiend by circumstances such as weather conditions.

(6) Logs. In the receiving section they are to show: Date, time, station heard, band, location of station heard, whether calling CQ or another station, signal report on station logged, estimated distance, points claimed. In the transmitting section logs are to show: Location, date, time, band used, station worked, reports given and received, location of station worked, estimated mileage for each contact, points claimed.

At the end of the logs show a summary of the totals for each sheet with multipliers and grand total. Logs to be signed by the participant. In matters regarding the contest the decision of a contest committee appointed at a Vic. V.h.f. Group meeting will be considered as final and binding. Logs should be posted to reach the Victorian Division rooms before 7th May, 1953.

(7) In determining distances, Army Survey Maps of 1" = 4 miles scale are to be taken as standard. Alternatively, the method shown in "A.R." of March, 1948, may be used.

(8) It is planned to have useful prizes available for the leading scorers in both sections.

WESTERN AUSTRALIA

50 Mc.: Lou 6HR and Basil 6BS have again been heard, both with quite strong signals. Don 6HK has overhauled the beam and feeders. Rog. 6RK and Jack 6GB are around quite frequently. Jack is talking of a new beam to go on the tower. Don 6DW has built up a silicon "noise generator" and now intends to prove that his converter is better than 6BO's! Conditions between Bruce Rock and Perth have been quite scratchy. The route to Frank 6FC has not been much better. Lionel 6LM has also been on 50 again, but his converter has lost its stability (echoes—xtal converters are the best!). For myself—little to report. I am just sitting back enjoying a yarn to any station that cares to natter Blake 6GS is still off the air. Charlie 6HM is on his way to Cocos Island; we all hope to work him.

144 Mc.: Don 6HK has had his "QQ" on the band and is now driving it with a QQCO4/15; is busy on beams. Jack 6GB has his "QQ" also going. It sounds very nice indeed and there is some r.f. getting out! Rog. 6RK is driving his 829 with an 815 as a class A driver Rog. and Don 6HK have found some merit in coils over linear tanks. Frank 6FC and I have had several QSOs and we wonder if 2 mx isn't better than 6. I have had a couple of contacts with 6AG and 6RU. The 2 mx. channel is still used every Sunday at 2000 hours. They stand by and no newcomer need wait long before he has a chance to enter the net. I have been toying with a pair of 834s for this band but even my 815 is hard pushed to drive them Believe 6BS has his 522 going.

If previous years are any guide, the 50 Mc. and 144 Mc. bands should soon offer an opportunity for DX and to anyone who has the bits and pieces and the DX spirit, December and January are, or have been, the best months.—6BO.

FEDERAL EXECUTIVE PROCEEDINGS

Resume of the Minutes of Proceedings at Meetings of the Federal Executive held during Sept., Oct., and Nov., 1952.

Request for Divisional Status by VK9 Amateurs.—Consideration was given to a request by a VK9 Amateur for the right to form a VK9 Division of the W.I.A. Agreed that this could not be done unless the requirements of the Federal Constitution relating to the formation of a Division could be met, and the VK4 Division's approval given for the modification of its Divisional boundary within which the VK9 call area was encompassed. Resolved that VK4 Council receive copies of all correspondence dealing with this request.

Emergency Network Plans For Civil Defence.—Resolved that dye-line prints be obtained of draft drawings of proposed basic Emergency Network Plan for Civil Defence tabled by the Secretary. Agreed that copies be forwarded to each Division with a detailed report as soon as practicable.

Disposition of Unclaimed QSL Cards.—Consideration was given to disposition of unclaimed QSL cards for non-members of the W.I.A. under the terms of Item 1.6 of the 1952 Annual Federal Convention. Agreed that a report be obtained from Mr. Ray Jones, Federal QSL Manager, and an Officer of the Postmaster-General's Department, on the legality of destroying these. Further agreed that upon receiving said report, copies be forwarded to Federal Council for comments.

Vote of Federal Council on Submitted Motions.—The Secretary reported on the result of voting of the Federal Council on the motion previously submitted reference approaching the Postmaster-General's Department for permission to operate emergency portable/mobile stations at any time, such privilege to be for the use of members of the emergency networks only. Voting: Aye—VK3, VK4, VK5, VK6, and VK7; Nay—VK2. The motion was therefore carried by five votes to one opposed.

The Secretary reported on the result of voting of the Federal Council on the motion previously submitted reference the deletion from the Federal Constitution of the right of the Federal Executive to vote in Convention. Voting Aye—VK2, VK3, VK5, VK6; Nay—VK4, VK7. The motion was therefore carried by four votes to two opposed. Agreed that Federal Council receive notification of said voting and that action be implemented on the motions immediately.

1956 Olympic Games Suggestions.—Consideration was given to a letter from VK6DX in connection with suggestions that F.E. inaugurate plans for accommodation, supply of tickets, transport, and Amateur activities for the 1956 Olympic Games. Resolved that the matter should be dealt with by the Victorian Division as the host State on this occasion, and that copies of the correspondence be detailed to the Victorian Division in this regard.

Federal Policy Book.—The Secretary tabled duplicated copies of the Federal Policy Book for distribution to Federal Council containing all amendments and additions agreed up to and including the 1952 Annual Federal Convention. After checking with original, agreed that these be sent out for the use of all members of Federal Council.

Combining of Federal and Uniform Divisional Constitutions.—Consideration was given to Federal Council's directive to combine the Federal and Uniform Divisional Constitutions to become the **Constitution of the Wireless Institute of Australia.** Resolved that expert legal advice be sought as soon as possible so that adequate time could be allowed to thoroughly study the two Constitutions.

Standard Log Sheets.—After discusson, it was resolved that the requirements of all Divisions for the Standard Log Sheets for Contest purposes be sought so that quotes for various quantities could be obtained with the indicated requirements as a basis. Agreed that requirements based on a five-year period be obtained.

FEDERAL, QSL, and DIVISIONAL NOTES

Federal President: G. GLOVER (VK2AG); Federal Secretary: G. M. HULL (VK2ES); Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

President: John Moyle, VK2JU.

Secretary: David H. Duff (VK2EO), Box 1734 G.P.O., Sydney.

Meeting Night: Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney

Divisional Sub-Editor, Harry Powell, VK2AYP, 9 Russell Avenue, Wahroonga.

Zone Correspondents: North Coast and Tablelands: Noel Hanson, VK2AHH, Ryan Ave., West Kempsey; **Newcastle:** Ron McD. Stuart, VK2ASJ, 98 Dunbar St., Stockton; **Coalfields and Lakes.** Harry Hawkins, VK2YL, 27 Comfort Ave., Cessnock, **Western:** W. H. Stitt, VK2WH, Cambijowa, Forbes; **South Coast and Southern:** Roy Raynor VK2DO, 42 Pettit St., Yass; **Eastern Suburbs:** Don Knock, VK2NO, 42 Yanko Ave., Waverley, **Northern Suburbs:** Harry Powell, VK2AYP, Russell Ave., Wahroonga, **St. George:** Chas. Coyle, VK2YK, 94 Carlton Cres., Kogarah Bay.

VICTORIA

President: G. Dennis, VK3TF

Secretary: L. R. Bradshaw, VK3SX.

Administrative Secretary: Mrs. J. Hurley, Law Court Chambers, 191 Queen St., Melbourne.

Meeting Night: First Wednesday of each month at the Radio School, Melb. Technical College.

Zone Correspondents: Western T B. Rodda, VK3ATR, Box 254, Warracknabeal, South Western: P Perkins, VK3APK, 182 McKillop St., Geelong East; North Eastern: A. D. Buchanan, VK3FD, "Booroondai," Wahring, Far North Western: M Folie, VK3GZ, 101 Lemon Ave., Mildura, Eastern: Leo Dwyer, VK3SG, and John Battrick; North Western: C. Case, VK3ACE, Cumming Ave., Birchip.

QUEENSLAND

President: V. Jeffs, VK4VJ.

Secretary: J. F. Pickles, VK4FP, Box 638J, G.P.O., Brisbane.

Meeting Night: Third Friday in each month at the I.R.E. Rooms, Wickham St., Valley.

Divisional Sub-Editor: A. Guildford, VK4AP, 36 Bramston Tce., Herston, Brisbane.

SOUTH AUSTRALIA

President: W W Parsons, VK5PS.

Secretary: R. G. Harris, VK5RR, Box 1234K, G.P.O., Adelaide. Telephone: J 1151.

Meeting Night: Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor: W W. Parsons, VK5PS, 10 Victoria Avenue, Rose Park.

WESTERN AUSTRALIA

President: W. E. Coxon, VK6AG.

Secretary: J Mead, Box N1002, G.P.O., Perth.

Meeting Place: Perth Technical College Annexe, Mounts Bay Road, Perth.

Meeting Night: Second Monday of each month.

Divisional Sub-Editor: R. H. Atkinson, VK6WZ, Box 127, Geraldton, W.A.

TASMANIA

President: R. O'May, VK7OM.

Secretary: F. J. Evans, VK7FJ, Box 371B, G.P.O., Hobart.

Meeting Night: First Thursday of each month at the Photographic Society's Rooms, 163 Liverpool Street, Hobart.

Divisional Sub-Editor: V. Dore, VK7JD.

Zone Correspondents: Northern: C. A. Cullinan, VK7KW, 12 Montrose Place, Launceston; **North Western:** R. K. Wilson, 4 Menai St., Burnie, Tasmania.

FEDERAL

SEASONAL GREETINGS

The Federal President and Officers of the Federal Executive extend hearty Seasonal Greetings to Federal Council and members of the Wireless Institute, and to kindred member Amateurs of all Societies wherever they may be situated throughout the world.

May the friendships cemented by the many contacts between VK Amateurs and the Amateurs of other countries during the past year be a further stepping stone to peace on earth and the continued goodwill of mankind one to the other

R.S.G.B. RE-DRAFTS ARTICLES

The Articles of Association of the Radio Society of Great Britain have, after a quarter of a century, been re-drafted to take into account many of the changes that have developed in the character of the Society and Amateur Radio since the original Articles were drafted way back in those early days. Some of the changes are quite interesting.

All members who are of age will be Corporates, and Associate membership will be confined to those who are under 21 years of age and are not qualified for Corporate membership. Candidates to be eligible for election as Corporate Members must be actively engaged in Radio Research, Experimentation or Communication. Candidates under 21 years of ago who do not fulfil these requirements but who are interested in research, experimentation or communication, are eligible for election as Associates.

The affairs of the Society shall be managed by a Council consisting of the President, the Immediate Past President and his predecessor, the Executive Vice-President, the Honorary Treasurer, seven ordinary elected Members and not exceeding six other Members each representing one of the six zones comprising the United Kingdom of Great Britain and Northern Ireland. The zonal boundaries shall be determined by the Council and may be changed from time to time. **All Members of the Council shall be elected to serve for a period of three years.**

The Council shall make provision for carrying out the objects of the Society and for conducting its affairs in accordance with the Memorandum and Articles of Association. They shall, subject to the Regulations of the Society for the time being, and to the provisions of the Status, have the sole control and management of the income, property, and affairs of the Society, and may appoint and dismiss any paid officers or servants.

The Council shall have power to make from time to time such Regulations, not being inconsistent with the Articles, as they may deem to be for the well-being of the Society.

AMENDMENTS TO THE FEDERAL CONSTITUTION

Under the direction of the Federal Council of the Wireless Institute of Australia, the Federal Executive hereby gives notice that it is intended to alter the Federal Constitution (1947) of the W.I.A. as follows:—

Section 8: By deleting after the word "and" in the second (2nd) line the words "three representatives of."

W.I.A. ACTIVITIES CALENDAR

December 6-7: European DX Contest (all bands). C.W. Section.

December 13-14: European DX Contest (all bands), Phone Section.

Section 10: By deleting after the word "meet" in the first (1st) line the words "annually at the Annual Federal Convention" and inserting in lieu thereof the words "at the Federal Convention."

Section 29: By deleting the words "The Federal President, the Federal Vice-President and the Federal Secretary shall be ex-officio members of the Federal Council and shall have one vote on behalf of the Federal Executive in decisions of the Federal Council" and inserting in lieu thereof the words "The Federal Executive as constituted under Section 20 shall be ex-officio members of the Federal Council."

Section 44: By deleting the words "The Annual Federal Convention shall be held once in each year at a time and place to be determined from time to time by the Federal Council," and inserting in lieu thereof the words "The Federal Convention shall be held at a time and place once in each year or as otherwise determined by Federal Council."

Section 52: By deleting after the word 'Council" in the third (3rd) line the words "provided that the Federal Executive shall have the right to one vote (see Sec. 29)," and after the word "vote" in the ninth (9th) line the words "irrespective of whether the latter be on behalf of the Federal Executive or"

Parts One (1) to Seven (7) and the Interpretation (Page One): By deleting where they appear in any Section thereof the words "The Annual Federal Convention" and inserting in lieu thereof the words "The Federal Convention."

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FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

VR2CG requests publicity to the fact that he is on 50 Mc. daily from 1230 to 1240 and from 1630 to 1650 New Zealand time, looking for VK and ZL contacts.

VS9AW is in Oman not Aden and is a separate country from Trucial Oman. He gives his QTH as care R.A.F., Salala, Aden Command, for QSL purposes only, and advises that the only station in Trucial Oman is MT4HBK who desires QSLs via R.S.G.B.

FI8AC, whose QTH is Box 537, Saigon, Indo-China, is reported to QSL OK.

VR1B, while on his way South on leave from Tarawa, called in at Ocean Island and set up operations. In the space of half an hour he worked VK4HR and VK4FJ on 21, 14 and 7 Mc. He also tried 28 Mc. without success. He is now in Australia to spend his three months' leave and asks all to be patient regarding QSLs which will be sent out on his return to Gilbert Island

ZS1C showed up on phone during the phone portion of the "CQ" Contest. He was on 14 Mc. and at excellent strength and was snapped up by many VK4 stations.

ZC5VR, H. V. C. Randall, P.O. Sandakan, North Borneo, has sent out temporary cards. Permanent cards will follow when they come to hand.

B.E.R.S.195, Eric Trebilcock, was lucky enough to receive a QSL from LB5XD in the Jan Mayen Island whose full QTH is Terry Lillevik, Weather Station, Jan Mayen Island, via Tromsoe, Norway. Other notes from Eric's budget state that Jean Charles, FK8AE, promises that his T6 note will shortly become T0. SM5AQV, Ake Anderson, of Sundbyberg, Sweden, voices his disappointment at the lack of VK signals on 3.5 Mc. between 1900 and 2030 G.M.T. daily Eric states he hears Ake consistently at 86. Ake is on 3550 Kc. with 500 watts. YN2AG Willard Hutton, indicated that he expects to operate from Nepal in June, 1953; while active at YN3AG Willard QSOed 196 countries but failed to QSO another YN Willard is back home at the moment as W3AG. ZB1HLW, David Pilley (G3HYW), of the Signals Training School, H.M.S. "Ricasoli," Malta, is looking for VK contacts on 7 Mc. c.w.

A budget of news from Ron VK9FM arrived a couple of days too late for inclusion in Nov. "A.R." Ron states he managed to get a QRP rig on the air around mid-September and took a small part in the VK-ZL Contest. Unfortunately he loses his mains power at 1300 daily, much to his XYL's delight. Ron and XYL Gina are eagerly looking forward to their return to the mainland early in 1953.

MISSING NOTES

It is regretted that the N.S.W. Divisional Notes do not appear in this issue.

The Notes, according to telegraphic information, were posted in sufficient time for publication, but up to the time of printing they had not arrived. Unfortunately, no duplicate copy had been kept.

—Editor.

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VICTORIA

EMERGENCY NETWORK

On the 18th and 19th of October, 1952, the Eastern Zone carried out a full scale emergency demonstration using Orbost for the control centre. The demonstration was arranged so that the Shire Council and Police Department would have first hand knowledge of communications that could be made available in cases of further flooding of this area.

The net assembled at Orbost on Saturday, 18th and carried out a preliminary survey of the district. On Sunday, 19th, in the presence of members of the Shire Council and the Chamber of Commerce, a non-technical description of the equipment was given together with the network organisation.

The following stations took part in the demonstration: VKs 3SS portable (Orbost, Control), 3IZ mobile, 3IO mobile, 3SS mobile, 3SG (Newry), 3TH (Yinnar), 3QZ (Traralgon), 3WE (Omeo), and 3LS (Melbourne).

Various test messages were handled by the net, one in particular which earned the appreciation of the Orbost representatives was a message directed from Mario (VK3IO mobile) via Orbost control to Melbourne. The time which elapsed from the originating of the message to reception of a reply taking only three minutes.

Mobile to mobile and mobile to control working was demonstrated with reliable communication up to 20 miles.

At the conclusion of the demonstration, the Shire Council expressed their appreciation for the fine demonstration carried out by the Eastern Zone.—VK3LS.

EASTERN ZONE'S CONVENTION AT BAIRNSDALE

Well, the Convention was a roaring success! Admittedly most of the roaring was done at Jack 3FK's place after the meeting, but these 813s do need neutralising. Anyway the muster of boys at Bairnsdale was excellent considering the distances to be travelled. Keith 3HK was our Melbourne visitor and very welcome too. The Convention resolved the following office-bearers for 1952-53. President, Ossie 3AHK; Vice-Presidents, Lindsay 3IO and Peter 3IZ; Secretary, David Scott; Treasurer, Grahame 3QZ; Assist. Secretary, Keith 3SS; Correspondents, Leo 3SG and John Battrick, and the official Zone Station is to be VK3IZ, Yarram.

It was decided to hold three field days on all bands in 1953. One v.h.f field day late in January is to be organised also. Interest in mobile and portable field days has increased since the last Orbost Show turned out so well, but opinion is against contest type field days. The next Convention is to be held at Omeo in 1953; Bill 3WE assures us of a good time!

On Sunday the boys, accompanied by XYLs, harmonica journeyed to Lakes Entrance where a very enjoyable boat trip to Metung was undertaken. Our President Ossie made a very fine speech at the conclusion of the day thanking Bairnsdale boys Ray Dorrington, Alan Jacka, and the others for making the Convention such an enjoyable one, and the zone heartily endorse his remarks. Thanks boys!

On Sunday morning from Jemmy's Point, Peter 3IZ showed us that the gear in the back of Ali's car really did work, and the 12 ft. loaded whip was not only for show, because he managed to work Gordon 3TK in Yinnar. George 3AOD came down with Geoff 3AGF on Sunday and was very interested in the Lakes trip.

Keith 3SS, for the first time on Sunday night, took over his new duties as control station on 3650 Kc. at 2000 hours for the Eastern Zone hook-up, we are all looking forward to the hook-ups with an increased attendance in future, what about it chaps? We hope to have a station on from Bairnsdale soon when Alan Jacka gets some of the gear cranked up that he's got around his shack. Hope to see more of the boys from Bairnsdale on soon. With keen members such as they showed themselves to be by organising the Convention so successfully, the zone cannot help but to prosper and flourish.

NORTH EASTERN ZONE

Noticed a photo of 3HZ's XYL in one of the provincial papers bowling the first ball of the season at a local Bowling Club opening. No sign of the OM though. Syd 3CI is now recovering from his accident. Heard George Wyberg was back in the zone again, relieving duty at Wangaratta. Alex 3AT has been heard round the bands lately. Les 3ALE is still at Radio Australia. Col 3WQ has been active in the construction field lately and Ken 3KR has now lined up 22 new countries on his list in ten weeks, while Rex 3UR is lashing out as well. Bill 3ANG is now on the air in Benalla whence Vic Bond, 3ABX, has just arrived and has had to set up his rig in the fowl house. Peter 3APF had his radio activity curtailed by urgent plumbing work and Keith 3JC is still in trouble with his beam. John 3ACK is recently married. Met Associate Jim Harrington at a recent R.F.B. Instructional Field Day.

CENTRAL WESTERN ZONE

As usual the bands have had their usual surprises and disappointments this month. All bands from 80 through to 2 mx seem to have their activity in the zone. Zone hook-ups on 80 mx have gone well, although one week conditions were impossible. Generally about six stations come on with hopes of more as time goes on. Even 3YW is readable these days with a fine n.b.f.m. signal and s.s.b. on tap for those interested.

On 40 mx we have 3TA with a mobile rig and whip antenna getting good results and 3RR knocking over CL, HL, FU, OA, etc., on 40 mx phone. 3ARM has his alternator now, so Bob will have a lot more scope for experiments when he gets a.c. laid on.

80 mx is where your scribe comes into his own, provided Byron is too busy to get on; good results from South America, Europe and North Africa. 10 mx has been quiet as far as I know, but Dick 3RR was heard in ZL on 2 mx and 6 mx is starting to open according to Dick. 2 mx activity in Horsham is on the increase so someday we may even hold our zone hook-ups on that band. In the meantime we'll settle for 80 mx. 8.30 p.m., Wednesdays with everybody present. That means you!!

GEELONG AMATEUR RADIO CLUB

Since our last report, the club has been honoured with four visitors, one being from Colac. We had a very good lecture by Ed 3AKE whose subject was "V.h.f. Converters." He brought along three different types of converters to illustrate his lecture. The morse class given by Bob 3IC is still continuing. Two of our members were wished all the best of luck when they sat for the last A.O.P.C.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division for October took the form of a film evening at which 140 members and visitors attended. All present thoroughly enjoyed the programme and quite a number commented on the high standard of the films chosen and I must agree with them. The two that seemed to impress everybody being "Highlights of a holiday trip to Port Lincoln," and the "Xmas Pageant."

Very little general business saw the light of day, so I presume that all is well with the complaints department, and a pretty little ceremony took place instead of general business, to wit, the announcement of the receipt of the Silver Medal awarded to the VK5 Division at the recent Royal Adelaide Exhibition for its working exhibit. The meeting closed at the witching hour of ten, and at the suggestion of the President, all stayed for that little nosh-chew that is fast becoming part and parcel of our general meeting. The fact that the lights had to be put out one by one to tactfully suggest that the hour was getting late is a sure indication that nobody appeared very anxious to leave the convivial atmosphere. My apologies to the many XYLs who were probably deciding to get the rolling pin from the kitchen cabinet, but you all know how those boys can talk about radio.

The Vice-President of the VK5 Division, Gordon 5XU, was the projectionist at the general meeting, and when we remember that he had been far from well all day, and also that but for him we would probably be hard put to obtain a machine to screen the films, then the round of applause, given him at the conclusion of the show, was well deserved. "Shylock" is a heck of a good scout, a typical schoolmaster, but one who could give me six handers any day, and make me like it.

The news of the month is of course the fact that Frank's (5MZ) daughter was the winner of the Graceful Girl Section at the Ballarat Competitions. This section takes winning, and of all the times that the S.A. Interstate team has been going to Ballarat it has only won this section twice. Who won it beside Frank's daughter? Pardon, by blushes, my daughter in 1949 (Sorry Frank, I had to slip that in). My knowledge of pre-natal influences is not very high, but could it be the influence of all the r.f. that is in our shacks Frank? Anyway, Frank, and also the XYL and Barbara, our congratulations, and only I know how you felt waiting for the results.

I take the opportunity of reminding all members that the December general meeting will take the form of a Xmas Get Together, in place of the Xmas Social and will be held in the clubrooms at 17 Waymouth Street. Don't forget to bring along something to eat, the Council will take care of the tea, coffee, and sugar, to say nothing of the milk and the cups, saucers and plates. The eats will be pooled and a good time should be had by all. This is an experiment, and if it is a success, then it will be repeated. So come along fellows, do your bit to make it a success, and give yourself a good time as well. We are trying to organise a few simple competitions with suitable prizes, and all in all it should be a night of nights, why I will even sing a song for you if you think that you can stand it. Anyway, come along and see the films, have a good time, have a good "natter," and make this experiment a success.

Quite a number of the locals have been running neck and neck for a long time for the unofficial title of the "VK5 DX King," but a dark horse bobbed up last month with a newly erected beam and has shot so far out in front that quite a number of the runners are thinking of retiring and licking their wounds. In all the time that I have been in the grand old game of Ham Radio I don't think that I ever remember anybody who could work the DX as easily as John 5JW appears to do over these last few weeks. From what I have been told the beam is a very workmanlike job and it certainly is paying dividends.

The XYL of Jim 5FO certainly knows all about the "Blarney Stone." The first time that I contacted Jim she had a word or so to say to me, and finished up by saying that she always read my magazine, I repeat, my magazine. It is my intention in the future to contact Jim at least once a week, if only for my ego (personal pride to you). I haven't been able to put on my hat since that contact. My magazine, wow, what do you think of that Tom!

Apparently the initiative of the Upper Murray gang, plus their enthusiasm, has infected the Northern areas, because I received a letter from Lance 5XL in which he said that they have decided to hold a get-together each month to report activity and to send down to me any doings that they might have. He also said that they seem to have drifted away from Ham Radio lately and possibly by having a get-together, discuss their activities, pass on the news, etc., they will boost up interest and at the same time not only assist the Institute, but also let the members know that they are still active. This is a darn good idea Lance and it has always been one of my chief regrets that the doings of the Northern areas have not always had the publicity that they deserve. I am entirely dependent upon the notes that the various country scribes send down to me, and I can assure them that I am very grateful for all that they have done in the past. By all means send along some notes, I can use it all.

5TJ has been putting out a good signal on 80 mx and Jim has also been heard on 40 mx. 5FB has not been very active lately, but the reason is apparently that John has been bitten by the recording bug. He has some extra good gear for the job, p.p.t.c. 807s, d.c. amplifier, and is more than pleased with the results.

5XL has been busy getting bushfire emergency gear ready for the coming season. Lance hopes to get going on 6 mx again; he can always manage to hear a signal on six, but does not seem able to get a tx going properly. He closed his short note to me by asking "Where is the Northern Net these days?"

5TW has his new exciter working very well on 40 mx at the moment and Tom is more than satisfied with the results on the air. 5CH has at last resumed activities on 40 mx after a break of quite a few months. Glad to know that you are back on the air Claude. 5JA is back from his holidays, and his main h.t. tranny has been rewound, which gives rise to the theory that it won't be long before John is distinctly audible. 5FD is having a little feedback trouble in his new hi-power modulator with a consequent mounting of John's blood-pressure. 5KU is very pleased with his new beam and Erg is quietly but consistently working the new countries. 5MS is almost fully operational again, which is only Mount Gambier double talk for the fact that Stuart is almost on the air again. Associate member Jack Fowler is in bed with "dog's disease," as he call it, and we all hope that he will soon be around again. 5CJ, apart from keeping a few skeds on 2 mx, and a little activity on 40 mx, is very busy keeping skeds with the cradle.

5TL is having a touch of key click trouble and is also bothered with a crystal which gets the wander lust and roams up and down the 40 mx band at the slightest provocation. Does it travel faster than "Rattling Salvation," Tom? 5RZ had his first contact with 5MA after all these years. "Hobby" and Fred could almost open their shack windows and talk to each other, but it has taken all this time to talk on the air to each other. 5CF has been on holidays and has now moved his radio gear out of his room to make way for Father Xmas, who is expected with a present for someone (very subtle). 5KW is now recognised as the most prolific experimenter in the Upper Murray, he has more gadgets than all the other boys put together. Harry has consented to give a practical demonstration of some of them at the November meeting of the gang.

5XO is at last officially on the air, yes, at last Alex has his call, but has not had much time for radio since taking over his fruit block. His Class C wavemeter works like a charm, much to the astonishment of the gang, who up to now thought it was only for display purposes! 5BC has been heard on 40 mx once or twice, but it is believed that Hugh has been on 6 mx consistently, because the band has opened up occasionally. How are you keeping, Otto? 5MA has been active spasmodically, but finds time to forward his usual monthly notes, work on his block, clean out his 22,000 gallon underground tank with the help of Tom, hold the usual monthly meeting at his QTH, and for all I know, quite a number of other important jobs. Thanks again OM for the notes and although I am known as Mr. Parsons to my creditors, I am better known as "Pansy" to my friends and enemies. Get it?

The monthly meeting of the boys in the Upper Murray district for October was held at the residence of Fred 5MA and among those present were Tom 5TL, Murray 5CF, Harry 5KW, Hughie 5BC and Alex 5XO, Ron Kemp, Wolfgang Wutke, Mr. Craig, and a V.I.P., who will remain nameless, completed the gathering. An enjoyable evening was held and the aforementioned V.I.P. gave the boys a talk on v.h.f., which from all accounts turned out to be the highlight of the evening. I understand that the two visitors from the City were more than impressed with the enthusiasm and keen attitude of the local boys, and once more the advantages of holding these local meetings of the boys has been demonstrated.

A visitor to the City of Churches this month was the Victorian Secretary, Russell 3BX who made a visit to the best broadcasting station in the State and was more than impressed with what he saw. There was a split stator condenser laying around the control room, which he described as the daddy of them all, and after seeing the gleam in his eyes we shifted the said condenser behind the rocks out of harms way. I know these secretaries.

The boys from the Upper Murray have asked me to publicise the fact of how much they appreciate the re-broadcast of the W.I.A. session on 80 mx. They personally thank Reg 5RR for all he has done, to say nothing of Hal 5AW and they say that the 80 mx transmission is very reliable, and if it had not been for this, they would not have heard the session very much these last few Sundays.

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WESTERN AUSTRALIA

It may sound like banging a worn-out drum, but I think we all feel pretty pleased with the result of the 1952 R.D. Chaps, you have now seen what you and you and you can do—so let's hope 1952 won't be the one and only time the trophy comes to the Sunny West. I'm sure we all felt that an adjoining State under the able guidance of its Columnist-President, would have romped home. I wonder what happened?

The monthly meetings continue to provide much of interest to city members and many worthwhile lectureties and demonstrations are given. It looks to me from this distance that our patron and broadcasts officer has more than a little to do with securing some of these, coming as they do from Technical College lecturers. It was my good fortune whilst in Perth on holiday to be shown over the college by George and there I met, among others, Mr. George Hutton who put on at a moment's notice the antenna pattern recording demonstration he had earlier given before the Institute. It was certainly a revelation to see the selsyn-controlled 3 element beam rotate in sympathy with the cursor while George traced a polar diagram from direct signal-strength readings alongside the chart. The equipment in the radio engineering department would make your mouth water, gents! And they're ever on the lookout for new stuff to expand their facilities for measurement and demonstration. As an ex-student of many years ago, I can say that the lad learning a trade these days has everything at his command to begin on a successful career the right way. The credit for this belongs to present and past Superintendents of Technical Education, and the W.I.A. is indeed lucky to have not only the moral support of 6GH, but also his very active support as well. Many a Ham with George's responsibilities would be content to stand well back and view Amateur Radio in a detached sort of way.

Although my visit to Perth did not coincide with any W.I.A. function, I was fortunate in attending the I.R.E. "Founders' Day" Dinner on 10/10/52 and felt far from out of place in that august company for there were many Hams present, some as guests like myself, and others because they were both "Pro" and Ham. Among the VKs present whom I recognised were 6AG, 6BC, 6HL, 6KW, 6JS, 6JP (minus camels that night), 6NL, 6GH, 6RK, 6RU, 6SA, 6WP and 6WT. Apologies to any missed but "Sybile's" act is sufficient excuse for forgetting everything—including what Mum told me. I know now that middle and old age have their compensations for the grey heads and the baldies had all the luck when the comely wench was singing her songs (with actions). One well known denizen of the DX bands moved his place three times in an effort to "catch the speaker's eye," but had no luck at all. Bad luck, Jim, your youthful and wolfish appearance is your undoing!

By way of direct contrast with normal months, my gleanings this time are not from mail-reading on 7 Mc., but from personal contact, so here goes. 6JS seems to devote his time to photography these days—mostly colour transparencies. When drawn out on radio, Jack expounds his theory about the ideal rig—small, compact, self-contained, knobless, cableless, and streamlined. If he could find a way of dispensing with the mike cable running to the tx and spoiling its beauty, Jack says he'd start building his dream rig. 6HL still has his mobile 7, 28 and 50 Mc. rig in the car and gave me a practical demo.; unfortunately I proved to be a dud as second op. for after volunteering to operate the send-receive switch I shoved it only as far as the hyphen—with somewhat perplexing results as far as 6GH was concerned! Harry invited me aboard his luxury cruiser "Tramp" and we spent a most enjoyable Sunday on the Swan River. Of course other people spend their Sundays (and other days and nights) on the "Swan" without leaving dry land, but we Harrys aren't boys like that. Thanks for an enjoyable outing, mate! 6KW paid a visit to Kalgoorlie and met 6CN and others en route. 6RK tells me he listens to the technical discussions on "forty" on Sunday mornings and enjoys them; I would feel better about that kind of thing if I were one of the technical giants answering the hard ones—but my role is that of the neophyte asking George and Eric for the answers! Roger told me also that Eric 6EC is boning up on t.v. and s.s.b. is now a jilted love. Blake 6GS is naturally partly responsible for this state of affairs.

6LU is very pleased with his grid dipper and was as surprised as I was when he found it had enough ergs to light the lamp in a small absorption wavemeter held close. Did we bite our nails as we sat and listened on 8/10/52—or did we? ZLs working Portugal the long way round on 7 Mc. phone at 4 p.m. W.A. time! And we couldn't raise a VK6, let alone VKs or ZLs! 6WP looked most impressive as an S.M.I.R.E. at the dinner already referred to; Bill was handing out scholarships and cracks at the University with gay abandon. At the same function, 6RU told me he had no luck calling a certain VK5 during the R.D. until he called him as the "best station in VK5" when a QSO resulted. You've got to pander to these egotistical chaps. 6SA is heard on various bands at odd times working the rare ones, sometimes the ones others can't even

hear, thanks to Jim's sensitive ears and his super-sharp rx.

On my way to Perth I called at Bindi Bindi and spent an hour with 6RT and saw his gear. Hope you can soon find some spare time to fire it up, Len. Seems ages since we last heard you on. On the return trip in company with 6GH and Mrs. Hayman, we called on 6MO and marvelled greatly at the fantastic array of sensitive measuring devices, radio equipment and other bits and pieces. Strange though, I wonder why Alan tied my hands behind my back before we began our tour of inspection? 6MO has been keeping skeds with Heard and Macquarie Islands to which outposts of the Empire two of the staff of the Watheroo Observatory are soon to be transferred.

As these are the last notes for 1952, may I conclude by wishing each and every one of you a Merry Xmas and a Bright and Prosperous New Year.

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TASMANIA

Despite the inclement weather, the November general meeting attracted a representative gathering. The meeting was held in the Photographic Society's Room on Thursday, 6th, with Mr. Bob O'May presiding. A lecture entitled "Scraps from the Notebook," was given by Mr. D. Aspinall, and proved to be most interesting. I think most members were in agreement with 7LJ when he suggested that the Notebook in question must contain some really good "gen."

Two visitors, Horst Matuszewski and friend, were present from Bronte Park. Horst explained that he previously shared the call sign DL7FH with another Ham in his home country; it being the practice for novices to share a call sign with an established Ham until they became proficient enough to be granted a separate call. The meeting closed after the usual "rag chew."

I have not the slightest doubt that all members are with me when I extend our heartiest congratulations to Western Australia on their scoop in the R.D. Contest. A most creditable performance, but watch out, we will be on your wheel next year.

Whilst in a congratulatory mood, we must not forget 7LS, of Queenstown; a son and heir, I believe Len.

7LE has had his shielding, sorry, I mean plaster, removed, and has been back home for some time now. We hope you don't have to wait too long for the 100 per cent. OK decision Len. Bob 7OM is seriously considering using the elements of 7MY's 2 mx beam for garden stakes, so Alan, you had better hurry up and collect same and let us hear from you. Two mx could do with a good injection these days, and it seems to be in your hands to be the doctor.

Charlie 9WG (ex-7WC) is now active at Port Moresby, and is looking forward to any VK7 contacts, so if you hear him, hail him. If he can hear you at all, he will come back.

I am led to believe that a most complex cross-band QSO took place between two local members recently. I think Nicky is the man to enlarge upon the subject, so I shall say no more.

Well that's all for now. I have often thought what wonderful boost to news it would be if all mains (other than Lower Sandy Bay) were changed over to 110 v.d.c. My address is Zeehan, should anyone wish to express their views on the foregoing.

NORTHERN ZONE

Radio silence has at last been broken by 7DB who recently made a welcome re-appearance on 40 mx. Zone President 7AM has been busy learning all about motor cycles, but expects to be on 2 mx before long.

7BQ, 7FF, 7LZ and 7XW have been very active on 144 Mc. with aerial systems directed on VK3 in hopes of a break through. 7.15 p.m. E.S.T. is the time.

7RK is so busy getting the "gen" on DX conditions that little time is left for usual operating. Looking bronzed after his holidays, 7LX returned to work and exams but finds a little time for building the 100 watter for next year. 7GM and 7CA are still working through difficult conditions, but 7RB is making additions to the "castle on the hill" instead of the long promised Ham shack. Finally, congratulations to VK8 on winning the R.D. trophy.

NORTH WESTERN ZONE

7KB has at last completed his steel tower which holds a motor driven 10 and 20 mx beam, nice work Ian and good DX hunting. 7WA and 7SF have declared war on local power interference and have conducted many investigations as to noisy transformers and tuned power line loops and also the equipment necessary for locating them. The bands have been very quiet here since the atomic blast a few months ago, but some good DX is starting to break through now and we can look forward to some good listening as the summer comes on.

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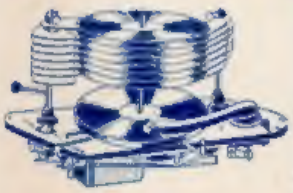

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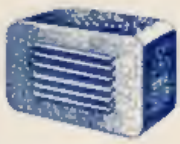

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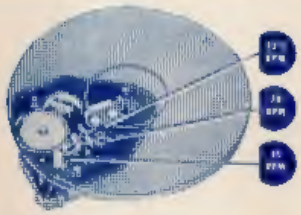

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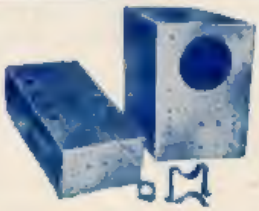

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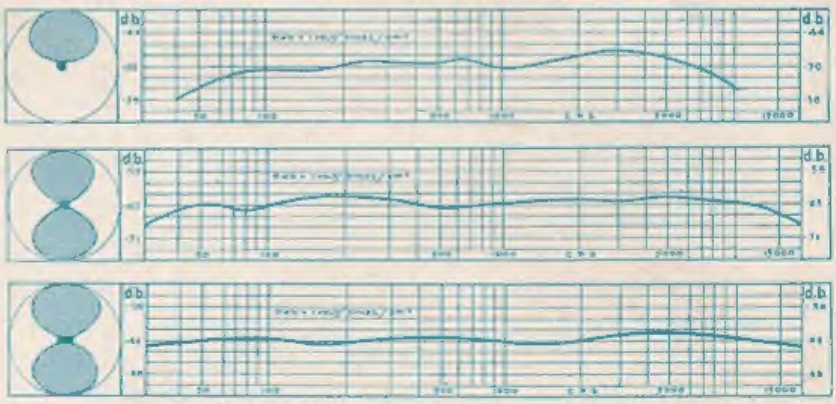

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